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Christopher C. Dunham
Cooper & Dunham LLP
1185 Ave. Of the Americas
New York, NY 10036

EXAMINER

DOTE, JANIS L

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No. 09/845,449
Examiner J. DOTE
Applicant(s) KONDOU et al
Group Art Unit 1756

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- Responsive to communication(s) filed on 8/6/02
- This action is FINAL.
- Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 1 1; 453 O.G. 213.

Disposition of Claims

- Claim(s) 1 - 11, 23, 24 is/are pending in the application.
Of the above claim(s) _____ is/are withdrawn from consideration.
- Claim(s) _____ is/are allowed.
- Claim(s) 1 - 11, 23, 24 is/are rejected.
- Claim(s) _____ is/are objected to.
- Claim(s) _____ are subject to restriction or election requirement

Application Papers

- The proposed drawing correction, filed on _____ is approved disapproved.
- The drawing(s) filed on _____ is/are objected to by the Examiner
- The specification is objected to by the Examiner.
- The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119 (a)-(d)

- Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119 (a)-(d).
- All Some* None of the:
- Certified copies of the priority documents have been received.
- Certified copies of the priority documents have been received in Application No. _____.
- Copies of the certified copies of the priority documents have been received
in this national stage application from the International Bureau (PCT Rule 17.2(a))

*Certified copies not received: _____

Attachment(s)

- Information Disclosure Statement(s), PTO-1449, Paper No(s). _____ Interview Summary, PTO-413
- Notice of Reference(s) Cited, PTO-892 Notice of Informal Patent Application, PTO-152
- Notice of Draftsperson's Patent Drawing Review, PTO-948 Other _____

Office Action Summary

1. The examiner acknowledges the cancellation of claims 12-22 and the amendment to claim 11 filed in Paper No. 6 on Aug. 6, 2002. Claims 1-11, 23, and 24 are pending.

2. The objection to the specification set forth in the Office action mailed Jan. 30, 2002, Paper No. 5, paragraph 1, has been withdrawn in response to the replacement paragraphs at page 26, line 14, page 30, line 2, and page 32, line 19, of the specification, filed in Paper No. 6.

The objection to the specification set forth in Paper No. 6, paragraph 2, has been withdrawn in response to the replacement paragraph at page 16, line 23, of the specification, filed in Paper No. 6.

The rejection of claim 11 under 35 U.S.C. 112, second paragraph, set forth in Paper No. 6, paragraph 4, has been withdrawn in response to the amendment to claim 11.

The cancellation of claims 12-22 has mooted the following rejections.

(1) The provisional rejection of claims 12-22 under 35 U.S.C. 102(e) over copending Application No. 09/434,472 (Application'472), set forth in Paper No. 5, paragraph 8.

(2) The rejection of claims of claims 12-22 under 35 U.S.C. 102(a) over Japanese Patent 2000-199982 (JP'982), as evidenced by

the Japanese Patent Office (JPO) machine-assisted translation of JP'982, set forth in Paper No. 5, paragraph 9.

(3) The rejection of claims 12-22 under 35 U.S.C. 102(f) set forth in Paper No. 5, paragraph 10.

(4) The rejections of claims 12-22 over US 6,020,100 (Iwasaki), as evidenced by cited references, or combined with US 5,554,478 (Kuramoto), set forth in Paper No. 5, paragraphs 11-13.

(5) The provisional rejection of claims 12-22 under the judicially created doctrine of obviousness-type double patenting over claims 1-3, 5-17, 20, 22, and 24-28 of copending Application No. 09/434,472 (Application'472).

3. The amendment filed in Paper No. 6 on Aug. 6, 2002, replacement paragraphs at page 26, line 14, page 30, line 2, and page 32, line 19, is objected to under 35 U.S.C. 132 because it introduces new matter into the disclosure. 35 U.S.C. 132 states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows:

The replacement paragraphs at pages 26, 30, and 32, replaced the compound formula "1-20" with compound formula -- 7 -- in compositions of exemplified toners black toner 3, black toner 4, and cyan toner 4. However, the originally filed specification does not provide antecedent basis for such a change.

Applicants in Paper No. 6, page 3, lines 16-25, argue that the charge controlling agent compound used in the examples at pages 26, 30, and 32, of the specification, is "in fact the charge controlling agent of formula (7)." Applicants refer to formula No. 20 in Table 4 of copending application No. 09/434,472, which is referred to at page 39, line 13, of said application as "formula I-20."

Applicants' arguments are not persuasive. Although the disclosure of compound I-20 at pages 26, 30, and 32, of the instant specification appears to be in error, upon review of the originally filed specification, applicants' alleged correction would not have been obvious to a person having ordinary skill in the art. As discussed in the above objection, the originally filed specification discloses that the toners in the examples at pages 26, 30, and 32 comprise the charge controlling compound I-20. In addition, the specification discloses that the charge controlling agent may be an aromatic hydroxycarboxylic acid "derivative" represented by the generic chemical formula (1) at page 12, lines 10-17. The specification further discloses two particular chemical formulas (6) and (7) of said aromatic hydroxycarboxylic acid "derivative." Thus, the charge controlling agent disclosed at pages 26, 30, and 32 does not have to be the charge controlling agent of formula (7). The disclosure in the copending application No. 09/434,472 is not

part of the originally filed specification. Accordingly, the disclosure in the originally filed specification does not provide adequate antecedent basis for applicants' alleged correction.

Applicants are required to cancel the new matter in the reply to this Office Action.

4. Claims 1-7, 10, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 5,805,969 (Elsermans) combined with Japanese Patent 2000-199982 (JP' 982), as evidenced by the JPO translation of JP' 982.

Elsermans discloses an image forming method that meets the steps recited in instant claims 1 and 10, but for the particular color toners. Elsermans also discloses an apparatus that meets the components recited in instant claim 23, but for the particular color toners. Elsermans' method comprises the steps of: (1) developing electrostatic images on at least three image bearing members with a yellow toner, a magenta toner, and a cyan toner; (2) transferring in order the yellow, magenta, and cyan color toner images onto a receiving material to form a full color image; (3) non-contact fixing the full color image on the receiving material with radiant energy; and (4) modifying the fixed full color image with a finishing device to achieve a desired gloss. Figs. 1 through 3, col. 8, lines 14-40, col. 9, line 44, to col. 11, line 11, and col. 11, line 61, to col. 12,

line 11. The yellow color toner image is formed directly on the receiving material, thus satisfying the requirement that "the yellow color toner image has a position closer to the receiving material than any other color toner image" recited in instant claim 1. Elsermans' apparatus comprises (1) image forming devices **A**, **B**, and **C** comprising yellow, magenta, and cyan toners, respectively (see Fig. 1); (2) a transferring device **34** to transfer the yellow, magenta, and cyan color toner images to a receiving material (see Fig. 2); (3) a non-contact fixing device **16** (see Fig. 3); and (4) a finishing device **17** (see Fig. 3). Elsermans does not limit the type of toner used in said method or apparatus. Col. 5, lines 59-62.

JP'982 discloses a set of color toners that meets the limitations recited in instant claims 1-7, 10 and 23. The set comprises a yellow toner, a magenta toner, and a cyan toner, wherein each of the toners comprises a binder resin, a pigment, and a salicylic acid metal complex that meets the limitations recited in instant claims 6 and 7. See the JPO translation, paragraphs 0056 through 0062, Yellow, Magenta, and Cyan toners 1 and 2. The yellow toner comprises a benzimidazolone pigment. The magenta toner comprises either Naphthol Carmine F6B or a combination of Naphthol Carmine F6B and Naphthol Carmine FBB. The cyan toner comprises β -copper phthalocyanine pigment. Each

of the toners has a melt viscosity that meets the viscosity recited in instant claim 3. Each color toner provides a color image having a haze factor as recited in instant claim 2. The binder resin in the color toners 2 is a polyol. JP'982 teaches that the polyol is the reaction product of an epoxy resin, a dihydric phenol, and either an adduct of dihydric phenol with an alkylene oxide or a glycidyl ether of an adduct of a dihydric phenol with an alkylene oxide. Translation, paragraphs 0028 and 0029. Said polyol resin meets the polyol resin recited in instant claims 4 and 5. JP'982 also teaches that the color toners can be combined with a carrier. Translation, paragraph 0052. JP'982 further discloses that its color toners are capable of producing a multi-color image having a satisfactorily balance in the red and blue fields, and good light resistance. Translation, paragraph 0004.

It would have been obvious for a person having ordinary skill in the art to use JP'982's color toners in Elsermans' image forming method and apparatus, because that person would have had a reasonable expectation of successfully obtaining an image forming method and apparatus that are capable of providing full color images on a receiving material with a desired gloss and having the benefits disclosed by JP'982.

5. Claims 1, 6, 7, 10, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Elsermans combined with and US 6,020,100 (Iwasaki), as evidenced by Chemical Abstracts (CA) Registry Numbers 77804-81-0 and 147-14-8, and Industrial Organic Pigments, Table 18 at page 289.

Elsermans discloses a full-color image forming method and apparatus as described in paragraph 4 above, which is incorporated herein by reference.

As discussed in paragraph 4, supra, Elsermans does not disclose the particular color toners recited in the instant claims. However, Elsermans does not limit the type of toner used in his method or apparatus. Col. 5, lines 59-62.

Iwasaki discloses a set of color toners comprising a yellow toner, a magenta toner, and a cyan toner. The color toners comprise a binder resin and a zinc salicylic acid compound that meets the metal complex recited in instant claims 6 and 7. See Example 1 at cols. 10-11, Example 13 at cols. 18-19, and col. 9, lines 30-31. The yellow toner comprises Pigment Yellow 180, which is identified in CA Reg. No. 77804-81-0 as a benzimidazolone pigment. The cyan toner comprises Pigment Blue 15:2, which is identified in CA Reg. No. 147-14-8 as β -copper phthalocyanine. The magenta toner comprises Pigment Red 184. Pigment Red 184 is identified as a commercially available Naphthol AS pigment comprising a mixture of compounds

having the chemical formulae disclosed in the instant specification, page 8, as Naphthol Carmine F6B. See Industrial Organic Pigments, Table 18 at page 289. Thus, Pigment Red 184 is Naphthol Carmine F6B. Iwasaki further teaches that the color toners can be used as a mono-component developer, or in a two-component developer comprising a carrier. Col. 9, lines 56-61. Iwasaki discloses that his color toners are capable of providing full color images with good color reproducibility and transparency. Col. 1, lines 53-57, and for example, Table 1, example 1.

It would have been obvious for a person having ordinary skill in the art to use Iwasaki's color toners in Elsermans' image forming method and apparatus, because that person would have had a reasonable expectation of successfully obtaining an image forming method and apparatus that are capable of providing full color images on a receiving material with a desired gloss and having the benefits disclosed by Iwasaki.

6. Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Elsermans combined with and Iwasaki, as evidenced by Chemical Abstracts (CA) Registry Numbers 77804-81-0 and 147-14-8, and Industrial Organic Pigments, Table 18 at page 289, as applied to claim 1 above, further combined with additional teachings in Iwasaki.

The combined teachings of Elsermans and Iwasaki, as evidenced by Chemical Abstracts (CA) Registry Numbers 77804-81-0 and 147-14-8, and Industrial Organic Pigments, Table 18 at page 289, render obvious a full-color image forming method and apparatus as described in paragraph 5 above, which is incorporated herein by reference.

As discussed in paragraph 5, supra, Iwasaki discloses color toners that meet the toner compositional limitations recited in instant claim 1. However, Iwasaki does not disclose that the color toners provide a color image having a haze factor as recited in instant claim 2. Nor does Iwasaki disclose that the color toners have a melt viscosity as required in instant claim 3.

The instant specification at page 9, lines 8-16, discloses how to prepare a toner which produces a toner image having a relatively low haze factor. The toner manufacturing method uses a master batch in which a pigment is dispersed in a binder resin in a high content. The specification discloses that the master batch can be prepared preferably by kneading methods in which a pigment is kneaded with a resin using a two-roll or three-roll mill. Iwasaki discloses that his color toners are obtained by using a pigment master batch where the batch is obtained by kneading pigment and binder resin in a weight ratio of 23:54 in a twin-screw kneader. Col. 17, lines 23-43. Iwasaki's method

appears to the same or substantially the same as disclosed in the instant specification. Because Iwasaki's color toners meet the compositional limitations recited in instant claim 2, and because Iwasaki's color toners appear to be made in the same or substantially the same manner as disclosed in the specification, it is reasonable to presume that Iwasaki's color toners produce color images having the haze factor recited in instant claim 2. The burden is on applicants to prove otherwise. In re Fitzgerald, 205 USPQ 594 (CCPA 1980).

The instant specification at page 9, lines 17-22, discloses that to obtain color images having good reproducibility, it is important that each of the color toners melts and uniformly mixes with each other when fixed. The specification discloses that it is preferred that the toners have a melt viscosity not greater than 120 mPa·sec at 140°C. Iwasaki discloses that his color toners provide full color images having good color reproducibility. See Table 1, example 1, and Table 3, example 13. Because Iwasaki's color toners meet the compositional limitations recited in instant claim 3, and produce full color images having good color reproducibility, it is reasonable to presume that Iwasaki's color toners have the required melt viscosity recited in instant claim 3. The burden is on applicants to prove otherwise.

It would have been obvious for a person having ordinary skill in the art to use Iwasaki's color toners in Elsermans' image forming method and apparatus, because that person would have had a reasonable expectation of successfully obtaining an image forming method and apparatus that are capable of providing full color images on a receiving material with a desired gloss and having the benefits disclosed by Iwasaki.

7. Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Elsermans combined with Iwasaki, as evidenced by Chemical Abstracts (CA) Registry Numbers 77804-81-0 and 147-14-8, and Industrial Organic Pigments, Table 18 at page 289, as applied to claim 1 above, further combined with US 5,554,478 (Kuramoto).

The combined teachings of Elsermans and Iwasaki, as evidenced by Chemical Abstracts (CA) Registry Numbers 77804-81-0 and 147-14-8, and Industrial Organic Pigments, Table 18 at page 289, render obvious a full color image forming method and apparatus as described in paragraph 5 above, which is incorporated herein by reference.

Iwasaki does not disclose the use of a polyol resin as the toner binder resin as recited in instant claims 4 and 5. However, Iwasaki does not limit the type of toner binder resin used. Iwasaki discloses that it is desirable that the binder

resin have particular melting characteristics so as to enable the toner, as a full color toner, to have good light transmission and good color reproducibility. Col. 9, lines 1-5.

Kuramoto discloses a polyol binder resin synthesized by reacting (1) an epoxy resin, (2) a dihydric phenol, and (3) either an alkylene oxide adduct of a dihydric phenol or a glycidyl ether thereof. See Synthesis Example 1 at col. 8. Said binder resin meets the polyol recited in instant claims 4 and 5. Kuramoto discloses that color toners comprising said binder resin provide full color images with excellent color reproducibility and uniform glossiness. Col. 3, lines 32-35, and col. 19, lines 14-17. Said color toners also can provide sharp full color images without muddiness on a transparent film. Col. 19, line 27-30. Thus, it appears that Kuramoto's polyol resin provides color toners capable of providing full color images having good light transmission and good color reproducibility, which are the properties desired by Iwasaki.

It would have been obvious for a person having ordinary skill in the art to use the color toners rendered obvious over the combined teachings of Iwasaki and Kuramoto in Elsermans' image forming method and apparatus, because that person would have had a reasonable expectation of successfully obtaining an image forming method and apparatus that are capable of providing full color images on a receiving material with a desired gloss

and having the benefits disclosed by the combined teachings of Iwasaki and Kuramoto.

8. Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 4,593,991 (Aoki) combined with US 5,521,688 (Moser) and JP'982, as evidenced by the JPO translation of JP'982.

Aoki discloses a method of forming a full color image comprising the steps recited in instant claims 1 and 8, but for the non-contacting fixing step and the color toners. Aoki's method comprises the steps of: (1) developing an electrostatic image on an image bearing member with a yellow toner; (2) transferring the yellow toner image onto a receiving material; (3) repeating steps (1) and (2) using in order the magenta and cyan toners to form a full color toner image on the receiving material; and (4) fixing the full color toner image on the receiving material. Fig. 1, and col. 2, line 28, to col. 3, line 5, and col. 4, lines 8-30. The yellow color toner image is formed directly on the receiving material, thus satisfying the requirement that "the yellow color toner image has a position closer to the receiving material than any other color toner image" recited in instant claim 1. Aoki does not limit the type of fixing device used. Col. 3, lines 3-5.

Moser discloses a fixing method and apparatus for fixing color images on a receiving material. The method comprises the steps of non-contact fixing the color images on a receiving material by heating the member in an oven 76, and passing the fixed color images through a nip 90 formed by a pair of glossing rolls 78 and 80 to produce a desired uniform gloss in the color images. Col. 5, lines 27-61, and Fig. 1. Moser discloses that said method and fixing apparatus provide fixed color images that exhibit uniform gloss and satisfactory color saturation properties. Col. 1, lines 5-9. Moser discloses that his method and fixing apparatus can be used in a wide variety of printing methods and machines. Col. 4, lines 1-5. According to Moser, the glossing rollers are operated at substantially lower temperatures than conventional fusing rollers, which results in longer life and reliability compared to conventional fusing rollers. Col. 1, lines 57-61, and col. 3, lines 32-35. Moser also discloses that the glossing rollers are significantly smaller in size than conventional heated fusing rollers, resulting in cost savings. Col. 3, lines 36-40.

It would have been obvious for a person having ordinary skill in the art to use Moser's method of fixing color images to the receiving member in the method disclosed by Aoki, because that person would have had a reasonable expectation of

successfully obtaining a cost-effective and reliable image forming method that can be used repeatedly used for a long time and is capable of proving full color images having satisfactory color saturation properties and a desired uniform gloss.

Neither Aoki nor Moser limit the type of color toners used.

JP'982 discloses color toners that meet the toner compositional limitations recited in instant claims 1-8, as discussed in paragraph 4 above, which is incorporated herein by reference. JP'982 further discloses that its color toners are capable of producing a multi-color image having a satisfactorily balance in the red and blue fields, as well as good light resistance. Translation, paragraph 0004.

It would have been obvious for a person having ordinary skill in the art to use JP'982's color toners in the image forming method rendered obvious over the combined teachings of Aoki and Moser, because that person would have had a reasonable expectation of successfully obtaining a cost effective and reliable image forming method that is capable of providing full color images having the benefits disclosed by JP'982.

9. Claims 1 and 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aoki combined with Moser and Iwasaki, as evidenced by Chemical Abstracts (CA) Registry Numbers 77804-81-0

and 147-14-8, and Industrial Organic Pigments, Table 18 at page 289.

Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aoki combined with Moser and Iwasaki, as evidenced by Chemical Abstracts (CA) Registry Numbers 77804-81-0 and 147-14-8, and Industrial Organic Pigments, Table 18 at page 289.

Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aoki combined with Moser, Iwasaki, as evidenced by Chemical Abstracts (CA) Registry Numbers 77804-81-0 and 147-14-8, and Industrial Organic Pigments, Table 18 at page 289, and Kuramoto.

The combined teachings of Aoki and Moser render obvious an image forming method as described in paragraph 8 above, which is incorporated herein by reference. As discussed in paragraph 8, neither Aoki nor Moser limit the type of color toners used.

Iwasaki discloses color toners that meet the toner compositional limitations recited in instant claims 1 and 6-8, as discussed in paragraph 5 above, which is incorporated herein by reference. Iwasaki discloses color toners that also appear to meet the toner limitations recited in instant claims 2 and 3, as discussed in paragraph 6 above, which is incorporated herein by reference. Iwasaki further discloses that his color toners are capable of providing full color images with good color

reproducibility and transparency. Col. 1, lines 53-57, and for example, Table 1, example 1.

The combined teachings of Iwasaki and Kuramoto render obvious color toners that meet the compositional limitations recited in instant claims 4 and 5. The discussion of Iwasaki and Kuramoto in paragraph 7 above is incorporated herein by reference.

It would have been obvious for a person having ordinary skill in the art to use Iwasaki's color toners or the color toners rendered obvious over the combined teachings of Iwasaki and Kuramoto, in the image forming method rendered obvious over the combined teachings of Aoki and Moser, because that person would have had a reasonable expectation of successfully obtaining a cost effective and reliable image forming method that is capable of providing full color images having the benefits disclosed by Iwasaki or by the combined teachings of Iwasaki and Kuramoto.

10. Claims 1-7, 9, 23, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 5,442,428 (Takahashi) combined with Moser and JP'982, as evidenced by the JPO translation of JP'982.

Takahashi discloses a method of forming a full color image comprising the steps recited in instant claims 1 and 9, but for

the non-contacting fixing step and the color toners. Takahashi's method comprises the steps of: (1) developing an electrostatic image on an image bearing member with a cyan toner; (2) transferring the cyan toner image onto an intermediate transfer medium; (3) repeating steps (1) and (2) using in order the magenta and yellow toners to form a full color toner image on the transfer medium; (4) transferring the full color image on the intermediate transfer medium to a receiving material; and (5) fixing the full color toner image on the receiving material.

Fig. 2, and col. 3, line 47, to col. 5, line 53. Because the yellow color toner image is last one formed on the intermediate transfer medium, it forms the image closest to the receiving material. Thus, it meets the limitation recited in instant claim 1.

Takahashi also discloses an apparatus that meets the components recited in instant claims 23 and 24, but for the non-contact fixing device and the particular color toners.

Takahashi's apparatus comprises: (1) image forming device **9**; (2) developing units **15**, **16**, and **17** comprising cyan, magenta, and yellow toners, respectively; and (3) an image transfer device comprising an intermediate transfer medium **19**. See Fig. 2. Takahashi discloses that the fixing is accomplished by a pair of fixing rollers. Col. 5, lines 55-58.

Moser discloses a non-contact fixing method and apparatus for fixing color images on a receiving material. Moser discloses that said method and fixing apparatus provide fixed color images that exhibit uniform gloss and satisfactory color saturation properties. Moser also discloses the benefits of using said method and apparatus compared to conventional fixing rollers. The discussion of Moser in paragraph 8 above is incorporated herein by reference.

It would have been obvious for a person having ordinary skill in the art to use Moser's apparatus and method of fixing color images to the receiving member in the apparatus and method disclosed by Takahashi, because that person would have had a reasonable expectation of successfully obtaining a cost-effective and reliable image forming apparatus and a method that can be used repeatedly for a long time and are capable of proving full color images having satisfactory color saturation properties and a desired uniform gloss.

Neither Takahashi nor Moser limit the type of color toners used.

JP'982 discloses color toners that meet the toner compositional limitations recited in instant claims 1-7, 9, 23, and 24, as discussed in paragraph 4 above, which is incorporated herein by reference. JP'982 further discloses that its color toners are capable of producing a multi-color image having a

satisfactorily balance in the red and blue fields, as well as good light resistance. Translation, paragraph 0004.

It would have been obvious for a person having ordinary skill in the art to use JP'982's color toners in the apparatus and image forming method rendered obvious over the combined teachings of Takahashi and Moser, because that person would have had a reasonable expectation of successfully obtaining a cost effective and reliable image forming apparatus and method that are capable of providing full color images having the benefits disclosed by JP'982.

11. Claims 1, 6, 7, 9, 23, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi combined with Moser and Iwasaki, as evidenced by Chemical Abstracts (CA) Registry Numbers 77804-81-0 and 147-14-8, and Industrial Organic Pigments, Table 18 at page 289.

Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi combined with Moser and Iwasaki, as evidenced by Chemical Abstracts (CA) Registry Numbers 77804-81-0 and 147-14-8, and Industrial Organic Pigments, Table 18 at page 289.

Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi combined with Moser, Iwasaki, as evidenced by Chemical Abstracts (CA) Registry Numbers 77804-81-0

and 147-14-8, and Industrial Organic Pigments, Table 18 at page 289, and Kuramoto.

The combined teachings of Takahashi and Moser render obvious an image forming method and apparatus as described in paragraph 10, which is incorporated herein by reference. As discussed in paragraph 10, neither Takahashi nor Moser limit the type of color toners used.

Iwasaki discloses color toners that meet the toner compositional limitations recited in instant claims 1, 6, 7, 9, 23, and 24, as discussed in paragraph 5 above, which is incorporated herein by reference. Iwasaki discloses color toners that also appear to meet the toner limitations recited in instant claims 2 and 3, as discussed in paragraph 6 above, which is incorporated herein by reference. Iwasaki further discloses that his color toners are capable of providing full color images with good color reproducibility and transparency. Col. 1, lines 53-57, and for example, Table 1, example 1.

The combined teachings of Iwasaki and Kuramoto render obvious color toners that meet the compositional limitations recited in instant claims 4 and 5. The discussion of Iwasaki and Kuramoto in paragraph 7 above is incorporated herein by reference.

It would have been obvious for a person having ordinary skill in the art to use Iwasaki's color toners or the color

toners rendered obvious over the combined teachings of Iwasaki and Kuramoto, in the apparatus and image forming method rendered obvious over the combined teachings of Takahashi and Moser, because that person would have had a reasonable expectation of successfully obtaining a cost effective and reliable image forming apparatus and method that are capable of providing full color images having the benefits disclosed by Iwasaki or by the combined teachings of Iwasaki and Kuramoto.

12. Claims 1-7 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,188,418 B1 (Hata) combined with Moser and JP'982, as evidenced by the JPO translation of JP'982.

Hata discloses a method of forming a full color image comprising the steps recited in instant claims 1 and 11, but for the non-contacting fixing step and the color toners. Hata's method comprises the steps of: (1) developing electrostatic images on at least three image bearing members with a cyan toner, a magenta toner, and a yellow toner; (2) transferring in order the cyan, magenta, and yellow color toner images onto an intermediate transfer medium 7 to form a full color image; (3) transferring the full color image on the intermediate transfer medium to a receiving material; and (4) fixing the full color image on the receiving material. Fig. 1, and col. 7,

lines 63-67, which discloses that the elements in Fig. 1 are the same as in Fig. 8 (which is described at col. 1, line 51, to col. 3, line 3), except that a "conveying drawing fluctuation period detector" 71 and a registration pattern generator 72 are added. Because the yellow color toner image is last color image formed on the intermediate transfer medium, it forms the color image closest to the receiving material. Thus, the limitation recited in instant claim 1 is met. Hata discloses that the fixing is accomplished by a pair of fixing rollers 12. See Fig. 1.

Moser discloses a non-contact fixing method and apparatus for fixing color images on a receiving material. Moser discloses that said method and fixing apparatus provide fixed color images that exhibit uniform gloss and satisfactory color saturation properties. Moser also discloses the benefits of using said method and apparatus compared to conventional fixing rollers. The discussion of Moser in paragraph 8 above is incorporated herein by reference.

It would have been obvious for a person having ordinary skill in the art to use Moser's method of fixing color images to the receiving member in the method disclosed by Hata, because that person would have had a reasonable expectation of successfully obtaining a cost-effective and reliable image

forming method that can be used repeatedly for a long time and is capable of proving full color images having satisfactory color saturation properties and a desired uniform gloss.

Neither Hata nor Moser limit the type of color toners used.

JP'982 discloses color toners that meet the toner compositional limitations recited in instant claims 1-7 and 11 as discussed in paragraph 4 above, which is incorporated herein by reference. JP'982 further discloses that its color toners are capable of producing a multi-color image having a satisfactorily balance in the red and blue fields, as well as good light resistance. Translation, paragraph 0004.

It would have been obvious for a person having ordinary skill in the art to use JP'982's color toners in the image forming method rendered obvious over the combined teachings of Hata and Moser, because that person would have had a reasonable expectation of successfully obtaining a cost effective and reliable image forming method that is capable of providing full color images having the benefits disclosed by JP'982.

13. Claims 1, 6, 7, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hata combined with Moser and Iwasaki, as evidenced by Chemical Abstracts (CA) Registry Numbers 77804-81-0 and 147-14-8, and Industrial Organic Pigments, Table 18 at page 289.

Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over combined Hata with Moser and Iwasaki, as evidenced by Chemical Abstracts (CA) Registry Numbers 77804-81-0 and 147-14-8, and Industrial Organic Pigments, Table 18 at page 289.

Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over combined Hata with Moser, Iwasaki, as evidenced by Chemical Abstracts (CA) Registry Numbers 77804-81-0 and 147-14-8, and Industrial Organic Pigments, Table 18 at page 289, and Kuramoto.

The combined teachings of Hata and Moser render obvious an image forming method and apparatus as described in paragraph 12, which is incorporated herein by reference. As discussed in paragraph 12, neither Hata nor Moser limit the type of color toners used.

Iwasaki discloses color toners that meet the toner compositional limitations recited in instant claims 1, 6, 7, and 11, as discussed in paragraph 5 above, which is incorporated herein by reference. Iwasaki discloses color toners that also appear to meet the toner limitations recited in instant claims 2 and 3, as discussed in paragraph 6 above, which is incorporated herein by reference. Iwasaki further discloses that his color toners are capable of providing full color images with good color

reproducibility and transparency. Col. 1, lines 53-57, and for example, Table 1, example 1.

The combined teachings of Iwasaki and Kuramoto render obvious color toners that meet the compositional limitations recited in instant claims 4 and 5. The discussion of Iwasaki and Kuramoto in paragraph 7 above is incorporated herein by reference.

It would have been obvious for a person having ordinary skill in the art to use Iwasaki's color toners or the color toners rendered obvious over the combined teachings of Iwasaki and Kuramoto, in the image forming method rendered obvious over the combined teachings of Hata and Moser, because that person would have had a reasonable expectation of successfully obtaining a cost effective and reliable image forming method that is capable of providing full color images having the benefits disclosed by Iwasaki or by the combined teachings of Iwasaki and Kuramoto.

14. Applicants' arguments filed in Paper No. 6 with respect to the rejections set forth in paragraphs 5-13 above have been fully considered but they are not persuasive.

Applicants argue that the combination of features (a) non-contacting fixing, (b) using a particular combination of particular color toners, and (c) positioning the yellow toner

image closer to the receiving image than any other color toner image recited in the instant claims provides the beneficial result of achieving "a full color image, produced by non-contact fixing, with image qualities as good as those attainable by a roller fixing method." Applicants assert that said result is unobvious and unexpected over the prior art of record.

Applicants argue that none of the cited references or any combination of the said references, suggest applicants' beneficial result.

Applicants' arguments are not persuasive. The reasons for combining the references do not have to be those of applicants. As discussed in paragraphs 5-13 above, JP'982, Iwasaki, or the combined teachings of Iwasaki and Kuramoto, provide ample teaching, suggestion, or motivation to a person having ordinary skill in the art to use the color toners disclosed by either JP'982 or Iwasaki, or rendered obvious over the combined teachings of Iwasaki and Kuramoto in the method and apparatus for forming a full-color image disclosed by Elsermans or rendered obvious over the combined teachings of Aoki and Moser, the combined teachings of Takahashi combined with Moser, or the combined teachings of Hata combined with Moser. Accordingly, the combination of the references cited in paragraphs 5-13 above renders prima facie obvious the instantly claimed method and apparatus.

Furthermore, the showing in the instant specification is insufficient to show that the instantly claimed invention yields unexpected results over the prior art for the following reasons:

(1) The showing is not commensurate in scope with the instant claims. The set of color toners in examples 1-4 are preferred. The color toners in example 1 comprise a preferred charge controlling agent (see instant claim 7), and have a preferred haze factor and melt viscosity (see instant claims 2 and 3, respectively). The color toners in example 2 comprise a preferred toner binder resin (see instant claims 4 and 5), a preferred charge controlling agent (see instant claim 6), and have a preferred haze factor and melt viscosity (see instant claims 2 and 3, respectively). The color toners in example 3 comprise a preferred toner binder resin (see instant claims 4 and 5), a preferred charge controlling agent (see instant claim 6), and have a preferred haze factor (see instant claim 2). The color toners in example 4 comprise a preferred toner binder resin (see instant claims 4 and 5), a preferred charge controlling agent (see instant claim 6), and have a preferred melt viscosity (see instant claim 3).

Given the welter of unconstrained variables it is not clear whether the results shown in the instant specification are obtained from the color toners comprising the particular yellow and magenta pigment recited in instant claims 1 and 22, or

obtained by some combination of the preferred embodiments, which is narrower in scope than any dependent claim.

(2) Furthermore, the results in the specification do not appear to be unexpected. JP'982 shows that its color toners, when used in a method or apparatus for forming a full color image, provide the same or nearly the same results shown in the instant specification. Compare for example, the JPO translation, examples 1 and 2 in Tables 10 and 11 with examples 1 and 2 in Table 1 of the instant specification. JP'982's toners in examples 1 and 2 appear to be identical to the toners in examples 1 and 2 of the instant specification. JP'982 does not specify that the method and apparatus have the features (a) and (c) recited in the instant claims. JP'982 does not limit the type of fixing used. As discussed in the rejections in paragraphs 4, 8, 10, and 12, supra, JP'982 discloses that its color toners are capable of producing a multi-color image having a satisfactorily balance in the red and blue fields, as well as good light resistance. Translation, paragraph 0004. These are the same objectives sought by applicants. Accordingly, in view of the teachings of JP'982, the results shown in the instant specification would have been expected by a person having ordinary skill in the art.

15. Applicants' amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicants is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Janis L. Dote whose telephone number is (703) 308-3625. The examiner can normally be reached Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Mark Huff, can be reached on (703) 308-2464. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9311 (Rightfax) for after final faxes, and (703) 872-9310 for other official faxes.

Any inquiry of papers not received regarding this communication or earlier communications, or of a general nature or relating to the status of this application or proceeding should be directed should be directed to the Customer Service Center of Technology Center 1700 whose telephone number is (703) 306-5665.

JLD
October 1, 2002

Janis L. Dote
JANIS L. DOTE
PRIMARY EXAMINER
GROUP 1500
1700